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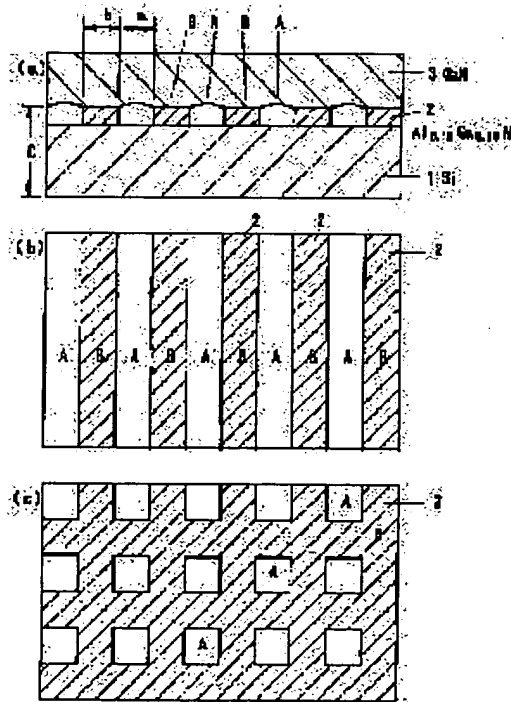
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(54) MANUFACTURE OF GALLIUM NITRIDE COMPOUND SEMICONDUCTOR

(57)Abstract:

PROBLEM TO BE SOLVED: To improve elemental characteristics, while carrying out the manufacture which has good efficiency by forming a gallium nitride semiconductor layer having no cracks or dislocations.

SOLUTION: An $\text{Al}_{0.15}\text{Ga}_{0.85}\text{N}$ layer 2 is formed onto a silicon substrate 1 in a stripe shape or a lattice shape. A GaN layer 3 is grown in the exposed regions A of the substrate 1 and the upper regions B of the layer 2. GaN is grown three-dimensionally on the $\text{Al}_{0.15}\text{Ga}_{0.85}\text{N}$ of the layer 2 epitaxially (not only in the vertical direction but also in the lateral direction) at this time. Accordingly, since GaN is grown in the epitaxial manner in the lateral direction as well, the gallium nitride compound semiconductor, in which the dislocations are reduced greatly, can be obtained in the lateral growth regions as the exposed regions A of the substrate 1.



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